

However, as recited in claims 20 and 24, the applicants invention measures the phase difference between two input optical signals.

To anticipate the claims, Geary must teach each and every element of the claims arranged as in the claims. Geary does not teach measuring the phase difference between two optical signals. Accordingly, the applicants respectfully submit that claims 20 and 24 are not anticipated by Geary and request that the Examiner reconsider and withdraw the rejection of claims 20 and 24 under 35 U.S.C. §102(b).

At pages 2 and 3 of the Office Action, the Examiner rejected claims 1-6, 13, 14, 16, 17, and 21-23 under 35 U.S.C. §103 as being unpatentable over the prior art shown in Figure 1 in view of Leuchs. The Figure 1 device is an apparatus for measuring an unknown input voltage differentially applied across electrodes 106 and 108. The Figure 1 device operates by detecting the intensity,  $I$ , of the optical signals modified by electrodes 106 and 108.

Leuchs does not suggest a device for determining a phase difference between two signals. Instead, Leuchs describes a device for determining the wavelength of coherent light based on two optical waveguides. The detection of the wavelength of the coherent light is accomplished by using a set of photo detectors to detect an interference pattern generated by the output of two point light sources. However, the claimed invention uses a pair of electro-optic waveguides. In the claimed invention, these electro-optic waveguides comprise an optical waveguide and an electrode substantially parallel to the optical waveguides. Each of the electrodes functions to modulate the signal travelling through the optical waveguide.

Leuchs does not suggest the use of electrodes substantially parallel to optical waveguides. The claimed electro-optic waveguide is significantly different from the optical waveguides shown in Leuchs because the claimed electro-optic waveguide modulates the optical signal

travelling through the optical waveguide. Leuch's does not suggest the modulation of the optical signals. Thus, the prior art of Figure 1 and Leuchs do not suggest either the claimed invention or combining their respective techniques. This cited art therefore does not support the Examiner's assertions and basis for the rejection of claims 1-6, 13, 14, 16, 17, and 21-23. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-6, 13, 14, 16, 17, and 21-23 under 35 U.S.C. §103.

At page 3 of the Office Action, the Examiner rejected claims 7-12, 15, 18, and 19 under 35 U.S.C. §103 as being unpatentable over the prior art shown in Figure 1 and Leuchs as applied to claims 1-6, 13, 14, 16, 17, and 21-23, and further in view of Geary. Geary does not overcome the deficiencies of the cited art discussed above. Thus, for the reasons stated above, applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 7-12, 15, 18, and 19 under 35 U.S.C. §103.

The Commissioner is hereby authorized to charge any insufficient fees or credit any overpayment associated with this application to Deposit Account No. 19-5127.

If the Examiner has any questions about this Amendment please call the undersigned.

Respectfully submitted,

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